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DISEASES OF THE CUCUMBER  
*Symptoms, Causes and Controls*

*Please save for reference  
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For easy reference, common diseases of the CUCUMBER are discussed below with their causes, symptoms, and the most effective controls we've been able to determine to date; however, please bear in mind that control effectiveness varies with locality and season -- no guarantee is implied in these recommendations.

ANGULAR LEAF SPOT.

SYMPTOMS: The leaves, at first, show angular shaped water soaked spots which tend to run together. They turn brown and crisp and in many instances drop out of the leaf. A bacterial exude which dries white, often appears on lower surface of leaf and on the young runners. Similar water soaked spots which turn white and crack open appear on the fruit.

CAUSES: Diseased HOST PLANT decayed matter in the soil carries the bacterial organism through the winter. It is also carried by the seed harvested from diseased fruits. The organism is spread by irrigation water and insects.

CONTROLS:

- (1) Rotate crops so that cucumbers are not followed successively. Destroy host plants.
- (2) Soak planting seed for 5 minutes in MERCURIC CHLORIDE solution (1 oz. in 6 gal. water). Follow by a clean water rinse. After seed has dried, dust with dry-type fungicide. We have had excellent results with ARASAN, SEMESAN, and SPERGON.

ANTHRACNOSE.

SYMPTOMS: Leaves develop circular, brownish dead spots which often become numerous enough to virtually cover entire leaf. Elongated, light brown spots develop on stems and deep, water-soaked spots (at times with pinkish centers) appear on fruits.

CAUSES: A fungus organism which over-winters on the seed of diseased fruits and on diseased HOST PLANT decayed material in the soil.

CONTROL:

- (1) Proper crop rotation. Do not plant members of CUCURBIT family successively.
- (2) Seed Treatment program as outlined above for ANGULAR LEAF SPOT
- (3) Dusting: (Also somewhat effective for POWDERY MILDEW)

- (a) 6% Yellow Cuprocide, 10% Calcium Arsenate 76% Talc.
- (b) 14% Copper-A Compound, 10% Calcium Arsenate 76% Talc.

METHOD: As soon as young plants appear, begin weekly dusting with either (a) or (b) formulas and continue until vining begins. After vining begins, change to formulas (c) or (d) below which also are helpful in combating APHIDS, CUCUMBER BEETLES, and most common diseases of the cucumber.

- (c) 10% Calcium Arsenate, 30% Black Leaf 40 6% Yellow Cuprocide 54% Talc.



ANTHRACNOSE (CONT D)

- (d) 10% Calcium Arsenate 30% Black Leaf 10 14% Copper A Compound, 46% Talc.  
NOTE: as fruit maturity approaches, Black Leaf 10 probably will not be needed, therefore formulas (a) or (b) at this stage should prove satisfactory.

BACTERIAL WILT:

SYMPTOMS: One vine will wilt and shortly die. Within a few days, the entire plant will wilt with death following closely. To determine the disease, cut and expose a diseased runner cross section to air for a few minutes, press ends firmly together, separate and thin strands of wilt bacteria will spring out.

CAUSES: Spread largely by the CUCUMBER BEETLE in which the organism overwinters. The Cucurbit species are HOST PLANTS (Watermelon excepted).

CONTROLS:

- (1) As the disease first appears, IMMEDIATELY remove all infected plants.
- (2) Wilt bacteria overwinter only in the CUCUMBER BEETLE. It is the most serious factor in the spread of the disease and its control can, very largely solve the problem. DUSTING is the best control and enumerated below are effective formulas.
  - (a) 10% Calcium Arsenate 90% Talc.
  - (b) The same formulas and technique of application as outlined in the controls for ANTHRACNOSE under headings (a), (b), (c), and (d) will be found effective in the control of both the BEETLE and the WILT BACTERIA.

DAMPING OFF.

SYMPTOMS: Plants fall over and die (at the ground line) of a wet soft rot on the stems. Also, seeds rot in the ground.

CAUSE: Various FUNGUS ORGANISMS living in the soil.

CONTROL: Dry powder treatment of the seeds before planting. We have found ARASAN, SEMESAN, and SPURON to be very effective.

MACROSPORIUM LEAF BLIGHT.

SYMPTOMS: Small, circular, slight water soaked spots (which enlarge in all directions) appear on leaves. Diameter of the spots ranges from pin point to  $\frac{1}{2}$  inch or more and usually show concentric rings and a definite margin on upper side of leaf. Infection occurs first near center of vine but soon spreads to all leaves and, in severe cases, will defoliate the vine.

CAUSES: A FUNGUS ORGANISM carried by irrigation water and wind. Overwinters in diseased HOST PLANT decayed matter and will live in the soil at least a full year.

CONTROLS:

- (1) DUSTS (If Macrosporium Leaf Blight is the only disease or pest.)
  - (a) 6% Yellow Cuprodis 94% Talc.
  - (b) 14% Copper A Compound 86% Talc.  
NOTE: If Cucumber Beetles, Bacterial Blight, Anthracnose, or Angular Leaf Spot are also present, Dust Formulas given for Anthracnose, (formulas (a), (b), (c), are also effective for Macrosporium Leaf Blight.
- (2) SPRAYS (If Macrosporium Blight is the only disease or pest.)
  - (a) Per 100 gal. of water 1  $\frac{1}{2}$  lb. Yellow Cuprodis  $\frac{1}{2}$  oz. Trinton (B 1956) spreader (soft water) and 1 oz. (hard water).
  - (b) Per 100 gal. of water, 4 lb. Copper A Compound  $\frac{1}{2}$  oz. Trinton (B 1956) spreader (soft water) and 2 oz. (hard water).
  - (c) Per 100 gal. of water, 2 qt. Dithone, 1 lb. Zinc Sulphate  $\frac{1}{2}$  lb. Hydrated Lime  $\frac{1}{2}$  oz. Trinton (B 1956) spreader (soft water) and 1 oz. (hard water).

MOSAIC (also known as NUBBIN DISEASE, WHITE PICKLE and WHITE WART.)

SYMPTOMS: Edge of leaves turn downward, whole leaf becomes wrinkled and mottled with yellow and green blotches. Green, warted projections with light areas



MOSAIC (CONT'D)

between, appear on the fruit which develops a bitter taste. Early season infection causes dwarfing; late season infection causes dwarfing only on new growth occurring after infection sets in. Mosaic can occur at any growth-stage.

CAUSES: A virus, transmitted by APHIDS and CUCUMBER BEETLES. It over-winters in seed of the Wild Cucumber and infected Matrimony Vine, Perennial, Milkweed, and Ground Cherry.

CONTROLS:

- (1) Immediately destroy and remove diseased plants.
- (2) Eradicate HCST PLANTS mentioned above in and within 400 yards of Cucumber Field.
- (3) Dust for APHIDS and CUCUMBER BEETLES.

- (a) 10% Calcium Arsenate; 30% Black Leaf 10, 14% Copper-A Compound, 46% Talc.

This issue of TECHNICAL DATA covering DISEASES OF THE CUCUMBER, is the first in a group which will cover principal diseases, their causes, symptoms, and controls of all of the CUCURBIT SPECIES that we have under annual production.

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Series 1 - Bulletin 2.  
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June, 1947

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